

802.11g (300mW) High Power Wireless LAN Module

Zcomax Technologies, Inc. has released its new line of Air Runner™ wireless High powered mini-PCI cards. The XG-622H is an 802.11g 54Mbps mini PCI module that has been designed with the integration market in mind. With its low profile external antenna connectors and standard mini PCI form, the XG-622H will fit into any design that supports the mini-PCI form factor. The XG-622H is a high performance module that exceeds both IEEE 802.11g and FCC regulatory requirements.

The XG-622H's integrated high power amplifier helps to reduce overall costs associated with wireless implementation by eliminating the need for additional jumper cables and secondary amplifiers, while maintaining its overall quality. The XG-622H module is a robust plug and play device that has support for both windows and Linux operating systems.

With an excellent price / performance ratio and the field-proven reliability associated with the Atheros chipset, the XG-622H is a superb choice for any wireless application requiring enhanced connectivity and high output power.



XG-622H at a glance

- 802.11g compliant (SuperG™)
- 25 dBm (300mW) Tx output Power
- -72 dBm @54Mbps Rx Sensitivity
- Hirose U.FL Antenna Connector
- 32-bit mini-PCI Type III B Interface
- FCC and ROHS compliant
- MAC / Baseband - Atheros AR5212
- Radio - Atheros AR5112
- Driver support – Windows, Linux and customized drivers are available.



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Physical Specification:

| | |
|------------------------|------------------------------------|
| Form Factor | 32-bit Mini PCI Type IIIB |
| Dimensions (L x W x H) | 59.6mm(L) * 44.5mm(W) * 3.25mm (H) |
| Weight | TBD |

RF Specification:

| | |
|--------------------------|--|
| Frequency Range (GHz) | North America: 2.412 ~ 2.462 |
| | Japan TELEC: 2.412 ~ 2.484 802.11b |
| | Japan TELEC: 2.412 ~ 2.472 802.11g |
| | Europe ETSI: 2.412 ~ 2.472 |
| | Spain: 2.457 ~ 2.462 |
| Frequency Drift | <25KHz |
| Transmitter Output Power | |
| 802.11b | 25 dBm @ 1 Mbps |
| 802.11g | |
| 54Mbps | 22 dBm ± 2dBm |
| 48 Mbps | 22 dBm ± 2dBm |
| 36 Mbps | 25dBm ± 2dBm |
| 6 Mbps | 25dBm ± 2dBm |
| Antenna Impedance | 50 ohms |
| Media Access Protocol | CSMA/CA w/ACK |
| 802.11b Data rates | 11, 5.5, 2, 1 Mbps |
| 802.11g Data rates | 54, 48, 36, 24,12,9,6 Mbps |
| Modulation | 48/54 Mbps (QAM-64) 24/36 Mbps (QAM-16) 12/18 Mbps (QPSK) 6/9 Mbps (BPSK) |
| Receiver Sensitivity | 54 / 48 Mbps: -72dBm / -73dBm |
| | 36 / 24 Mbps: -77dBm / -81dBm |
| @ PER < 10% for 802.11g | 18 / 12 Mbps: -84dBm / -86dBm |
| | 9 / 6 Mbps: -88dBm / -89dBm |
| @ PER < 8% for 802.11b | 11 / 5.5Mbps: -88dBm / -90dBm |
| | 2 / 1 Mbps: -92dBm / -95dBm |

Electrical Specification:

| | |
|-------------------------------|--------------------------|
| Supply Voltage | 3.3 Vdc, +/- 5% |
| Supply Voltage Ripple | 120mV (pp) max. |
| Power-on startup time | <600 ms |
| Sleep-to-receive startup time | <75 ms |
| Power consumption | TX: <1500mA, RX: <400mA, |

Antenna Connector Specification

| | |
|----------------|------------------------------|
| Connector Type | Hirose U.FL 50Ω |
| Manufacturer | Hirose Electronic Co. Ltd. |
| Part Number | U.FL-R-SMT (CL331-0471-0-01) |

Environmental

| | |
|---------------------|--|
| Working Temperature | 0 ~ 55°C, 95% relative humidity (non-condensing) |
| Storage Temperature | -20 ~ 80°C, 95% relative humidity (non-condensing) |

Absolute Maximum Rating

Stress above those listed in Absolute Maximum Rating may cause permanent damage to the device. This is a stress only rating and operation of the device at these or any other conditions above those indicated in standard specifications is not implied.

| | |
|---------------------|---|
| Supply Voltage | 3.7V |
| I/O Voltage | -0.5V ~ VCC+0.3V |
| Storage Temperature | -20 ~ +80°C, 95% relative humidity (non-condensing) |
| Barometric Pressure | 740 hPa ~ 1050 hPa |

Reliability

Mean Time To Failure is rated at 150,000 hours.

Interoperability

The XG-622H interoperates with any IEEE 802.11g or 802.11b compliant devices.

Security

The XG-622H supports WPA / WPA2 and IEEE 802.1X. Support will be equal to or greater than the latest Atheros supplied driver. See driver for full details.

Warranty

The XG-622H is supplied with a 12 month warranty against manufacturing defects.